

Listing of Claims

1-55. Cancelled

56. (Currently Amended) A computer-implemented method comprising:

selecting a child class from a class hierarchy, wherein

the class hierarchy comprises

the child class, and

a parent class,

the parent class and the child class are associated with one another,

the child class is configured to inherit an attribute of the parent class,

the child class comprises one or more associated attributes,

the one or more associated attributes comprise the attribute,

the one or more associated attributes are configured to describe an item,

the selecting the child class is based on the one or more associated attributes,

the selecting the child class is performed such that each of the one or more

associated attributes has a non-null value to describe the item,

the attribute has a first domain associated with the parent class and a second

domain associated with the child class, and

the second domain is more restrictive than the first domain;

associating [[an]] the item with [[a]] the child class, wherein

~~the class comprises associated attributes that describe~~

the attribute describes one or more members of the child class,

~~the associating comprises determining a class in a hierarchy,~~

~~the determining is based on associated attributes~~

the one or more associated attributes are necessary to describe the item, and

the one or more associated attributes are associated with the child class in the

class hierarchy[[, and]]

~~the associating the item comprises selecting the class such that each~~

~~associated attribute has a non-null value in describing the item;~~

storing a first record associating

the item, ~~and with the selected~~

the child class; and

storing a second record associating the item with ~~each associated~~

the attribute ~~of the class~~, and

a value of the attribute ~~describing the item~~.

57. (Cancelled)

58. (Currently Amended) The computer-implemented method of Claim ~~[[57]]~~56,

wherein

the one or more associated attributes ~~of a child class~~ further comprise an additional set of attributes not inherited from the ~~associated~~ parent class.

59. (Cancelled)

60. (Previously Presented) The computer-implemented method of Claim 56, wherein said storing the first record is to a first memory structure, and said storing the second record is to a second memory structure.

61. (Previously Presented) The computer-implemented method of Claim 60 wherein the first and second memory structures are distinct from one another.

62. (Previously Presented) The computer-implemented method of Claim 60 wherein the first and second memory structures are tables in a database.

63. (Currently Amended) The computer-implemented method of Claim 56 wherein the one or more associated attributes are metadata of the child class.

64. (Currently Amended) An apparatus comprising:

~~means for associating an item with a class, wherein~~

~~the class comprises associated attributes that describe members of the class,~~

~~the means for associating further comprises means for determining a class in~~

~~a hierarchy,~~

~~the determining is based on associated attributes necessary to describe the~~
~~item,~~
~~the associated attributes are associated with the class in the hierarchy, and~~
~~the means for associating the item comprises means for selecting the class~~
~~such that each associated attribute has a non-null value in describing~~
~~the item;~~
~~means for storing a first record associating the item with the selected class; and~~
~~means for storing a second record associating the item with each associated~~
~~attribute of the class and a value of the attribute describing the item~~
means for selecting a child class from a class hierarchy, wherein
the class hierarchy comprises
the child class, and
a parent class,
the parent class and the child class are associated with one another,
the child class is configured to inherit an attribute of the parent class,
the child class comprises one or more associated attributes,
the one or more associated attributes comprise the attribute,
the one or more associated attributes are configured to describe an item,
the means for selecting the child class is based on the one or more associated
attributes,
the means for selecting the child class is configured such that each of the one
or more associated attributes has a non-null value to describe the
item,
the attribute has a first domain associated with the parent class and a second
domain associated with the child class, and
the second domain is more restrictive than the first domain;
means for associating the item with the child class, wherein
the attribute describes one or more members of the child class,
the one or more associated attributes are necessary to describe the item, and
the one or more associated attributes are associated with the child class in the
class hierarchy;
means for storing a first record associating

the item, and
the child class; and
means for storing a second record associating the item with
the attribute, and
a value of the attribute.

65. (Cancelled)

66. (Currently Amended) The apparatus of Claim ~~[[65]]~~64, wherein the one or more associated attributes ~~of a child class~~ further comprise an additional set of attributes not inherited from the ~~associated~~ parent class.

67. (Cancelled)

68. (Previously Presented) The apparatus of Claim 64 further comprising:
a first and a second memory structure, wherein
said means for storing the first record performs said storing to the first memory structure, and
said means for storing the second record performs said storing to the second memory structure.

69. (Previously Presented) The apparatus of Claim 68 wherein the first and second memory structures are distinct from one another.

70. (Previously Presented) The apparatus of Claim 68 wherein the first and second memory structures are tables in a database.

71. (Currently Amended) The apparatus of Claim 64 wherein the one or more associated attributes are metadata of the child class.

72. (Currently Amended) A system comprising:

a processor;

a memory, coupled to the processor, storing instructions executable on the processor to

~~associate an item with a class, wherein~~

~~the class comprises associated attributes that describe members of the class,~~

~~the associating comprises determining a class in a hierarchy,~~

~~the determining is based on associated attributes necessary to describe the item,~~

~~the associated attributes are associated with the class in the hierarchy, and~~

~~the instructions to associate the item further comprise instructions to select the class such that each associated attribute has a non-null value in describing the item;~~

~~store a first record associating the item with the selected class; and~~

~~store a second record associating the item with each associated attribute of the class and a value of the attribute describing the item~~

select a child class from a class hierarchy, wherein

the class hierarchy comprises

the child class, and

a parent class,

the parent class and the child class are associated with one another,

the child class is configured to inherit an attribute of the parent class,

the child class comprises one or more associated attributes,

the one or more associated attributes comprise the attribute,

the one or more associated attributes are configured to describe an item,

the selecting the child class is based on the one or more associated attributes,

the selecting the child class is performed such that each of the one or more

associated attributes has a non-null value to describe the item,

the attribute has a first domain associated with the parent class and a second

domain associated with the child class, and

the second domain is more restrictive than the first domain;

associate the item with the child class, wherein

the attribute describes one or more members of the child class,
the one or more associated attributes are necessary to describe the item, and
the one or more associated attributes are associated with the child class in the
class hierarchy;

store a first record associating

the item, and

the child class; and

store a second record associating the item with

the attribute, and

a value of the attribute.

73. (Cancelled)

74. (Currently Amended) The system of Claim ~~[[73]]~~72, wherein the one or more associated attributes ~~of a child class~~ further comprise an additional set of attributes not inherited from the ~~associated~~ parent class.

75. (Cancelled)

76. (Previously Presented) The system of Claim 72 further comprising:
a first and a second memory structure;
the instructions to store the first record perform the storing to the first memory structure,
and
the instructions to store the second record perform the storing to the second memory structure.

77. (Previously Presented) The system of Claim 76 wherein the first and second memory structures are distinct from one another.

78. (Previously Presented) The system of Claim 76 wherein the first and second memory structures are tables in a database.

79. (Currently Amended) The system of Claim 72 wherein the one or more associated attributes are metadata of the child class.

80. (Currently Amended) A computer-readable storage medium comprising:
~~a first set of instructions, executable on a processor, configured to associate an item with a class, wherein~~
~~the class comprises associated attributes that describe members of the class,~~
~~the first set of instructions further comprises a sixth set of instructions for~~
~~determining a class in a hierarchy,~~
~~the determining is based on associated attributes necessary to describe the~~
~~item,~~
~~the associated attributes are associated with the class in the hierarchy, and~~
~~the first set of instructions further comprises a second set of instructions,~~
~~executable on the processor, configured to select the class such that~~
~~each associated attribute has a non-null value in describing the item;~~
~~a third set of instructions, executable on the processor, configured to store a first~~
~~record associating the item with the selected class; and~~
~~a fourth set of instructions, executable on the processor, configured to store a second~~
~~record associating the item with each associated attribute of the class and a~~
~~value of the attribute describing the item~~
a first set of instructions, executable on the processor, configured to select a child
class from a class hierarchy, wherein
the class hierarchy comprises
the child class, and
a parent class,
the parent class and the child class are associated with one another,
the child class is configured to inherit an attribute of the parent class,
the child class comprises one or more associated attributes,
the one or more associated attributes comprise the attribute,
the one or more associated attributes are configured to describe an item,
the selecting the child class is based on the one or more associated attributes,

the selecting the child class is performed such that each of the one or more
associated attributes has a non-null value to describe the item,
the attribute has a first domain associated with the parent class and a second
domain associated with the child class, and
the second domain is more restrictive than the first domain;
a second set of instructions, executable on the processor, configured to associate the
item with the child class, wherein
the attribute describes one or more members of the child class,
the one or more associated attributes are necessary to describe the item, and
the one or more associated attributes are associated with the child class in the
class hierarchy;
a third set of instructions, executable on the processor, configured to store a first
record associating
the item, and
the child class; and
a fourth set of instructions, executable on the processor, configured to store a second
record associating the item with
the attribute, and
a value of the attribute.

81. (Cancelled)

82. (Currently Amended) The computer-readable storage medium of Claim
 [[81]]80, wherein
 the one or more associated attributes ~~of a child class~~ further comprise an additional set
 of attributes not inherited from the ~~associated~~ parent class.

83. (Cancelled)

84. (Currently Amended) The computer-readable storage medium of Claim 80,
 wherein

the third set of instructions is further configured to ~~perform said storing~~ store the first record to a first memory structure, and
the fourth set of instructions is further configured to ~~perform said storing~~ store the second record to a second memory structure.

85. (Previously Presented) The computer-readable storage medium of Claim 84 wherein the first and second memory structures are distinct from one another.

86. (Previously Presented) The computer-readable storage medium of Claim 84 wherein the first and second memory structures are tables in a database.

87. (Currently Amended) The computer-readable storage medium of Claim 80 wherein the one or more associated attributes are metadata of the child class.

88. (Currently Amended) The method of Claim 56, wherein the class hierarchy describes vehicles.